

FIG. 1

10076325.021002

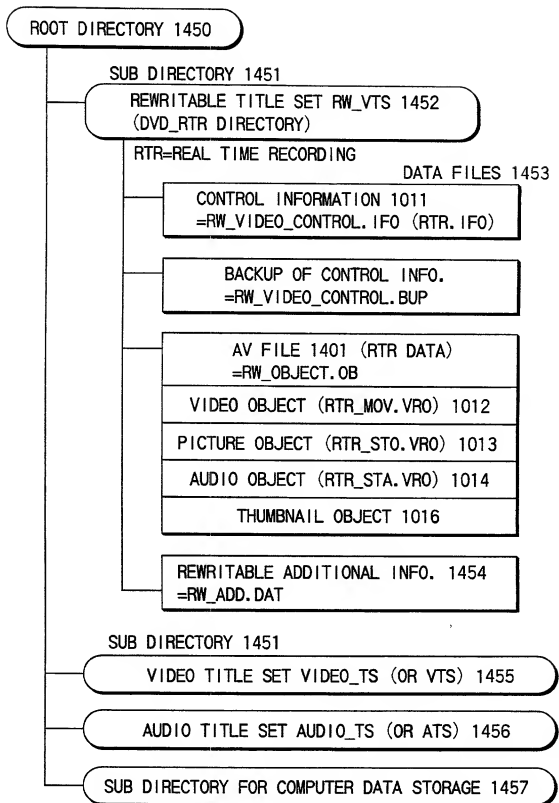
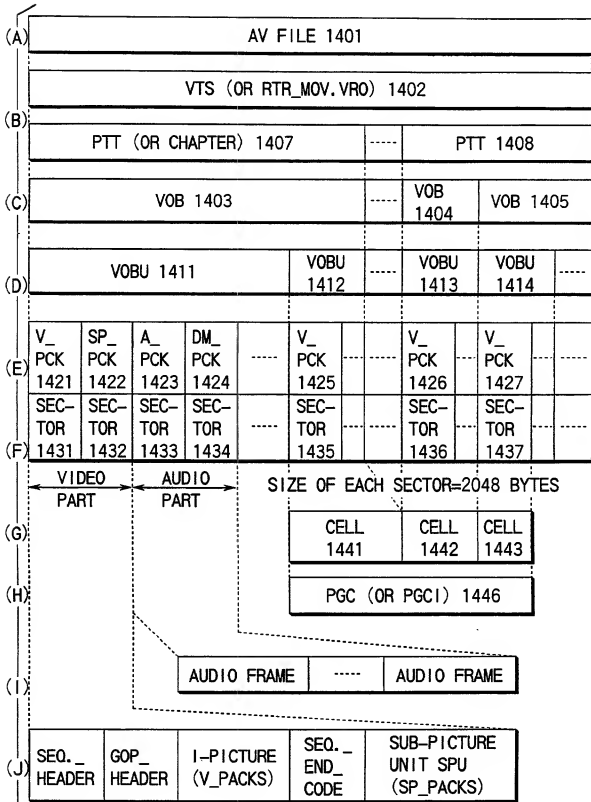


FIG.2

10076325.021902



AV FILE 1401						
VOB #3 (1) 1463	VOB #1 1461	VOB #3 (2) 1464	VOB #2 1462	UNRECORDED AREA 1460	VOB #3 (3) 1465	
EXTENT # γ 1473	EXTENT # α 1471	EXTENT # δ 1474	EXTENT # β 1472	EXTENT # ζ 1470	EXTENT # ϵ 1475	LSNa+1
						LSNa+2
						LSNb
						LSNb+1
						LSNb+2
						...
						LSNc
						LSNc+1
						LSNd
						LSNd+1
...						
LSNe						
LSNe+1						
...						
LSNf						
LSNf+1						
...						
LSNg						

←SMALLER LOGICAL SECTOR NUMBER (LSN) LARGER LOGICAL SECTOR NUMBER (LSN) →
 ←INNER SIDE OF OPTICAL DISC 1001 OUTER SIDE OF OPTICAL DISC 1001→

FIG.4

CONTENTS OF ALLOCATION MAP TABLE 1105	NUMBER OF EXTENTS IN UNRECORDED AREA 1601	1
	1ST ADR. (LSN) OF 1ST EXTENT IN UNRECORDED AREA 1606	e-a
DISTRIBUTION INFORMATION OF POSITIONS OF UNRECORDED AREA 1621	SIZE (SECTORS) OF 1ST EXTENT IN UNRECORDED AREA 1614	f-e
	NUMBER OF EXTENTS IN VOB #1 1602	1
DISTRIBUTION INFORMATION OF POSITIONS OF RECORDED DATA AS TO VOB #1 1622	1ST ADR. (LSN) OF 1ST EXTENT IN VOB #1 1607	b-a
	SIZE (SECTORS) OF 1ST EXTENT IN VOB #1 1615	c-b
DISTRIBUTION INFORMATION OF POSITIONS OF RECORDED DATA AS TO VOB #2 1623	NUMBER OF EXTENTS IN VOB #2 1603	1
	1ST ADR. (LSN) OF 1ST EXTENT IN VOB #2 1608	d-a
DISTRIBUTION INFORMATION OF POSITIONS OF RECORDED DATA AS TO VOB #3 1624	SIZE (SECTORS) OF 1ST EXTENT IN VOB #2 1616	e-d
	NUMBER OF EXTENTS IN VOB #3 1604	3
	1ST ADR. (LSN) OF 1ST EXTENT IN VOB #3 1609	1
	SIZE (SECTORS) OF 1ST EXTENT IN VOB #3 1617	b-a
	1ST ADR. (LSN) OF 2ND EXTENT IN VOB #3 1610	c-a
	SIZE (SECTORS) OF 2ND EXTENT IN VOB #3 1618	d-c
	1ST ADR. (LSN) OF 3RD EXTENT IN VOB #3 1611	f-a
	SIZE (SECTORS) OF 3RD EXTENT IN VOB #3 1619	g-f

FIG. 5

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PGC CONTROL INFO. (OR UD_PGCIT) 1103

PGC INFORMATION MANAGEMENT INFO. (OR UD_PGCIT) 1052
PGC INFORMATION SEARCH POINTER #1 (UD_PGC_I_SRP#1) 1053
PGC INFORMATION SEARCH POINTER #n (UD_PGC_I_SRP#n) 1054
PGC INFORMATION #1 (OR UD_PGC_I#1) 1055
PGC INFORMATION #i (OR UD_PGC_I#i) 1056
PGC INFORMATION #n (OR UD_PGC_I#n) 1057

#i=ANY ONE OF #1 TO #n

PGC GENERAL INFO. (OR PGC_GI) 1061
PROGRAM INFO. (PGI#1)
PROGRAM INFO. (PGI#m)
CELL ID #1 (OR CI_SRP#1)
CELL ID #m 1151 (OR CI_SRP#m)
CELL INFO. (CI#1)
CELL INFO. (CI#n)

- *1> PGC INFORMATION (OR UD_PGC_I) CAN DEFINE
A GROUP OF ONE OR MORE PROGRAMS;
- *2> EACH PROGRAM CAN BE FORMED OF ONE OR MORE CELLS;
- *3> EACH CELL CAN BE SPECIFIED BY CELL ID (OR CI_SRP);
- *4> EACH CELL ID (OR CI_SRP) CAN INDICATE POSITION
(OR START ADDRESS) OF CELL INFORMATION (OR CI);
- *5> EACH CELL INFORMATION (OR CI) CAN DETERMINE
START TIME AND END TIME OF PRESENTATION OF CELL

FIG. 6

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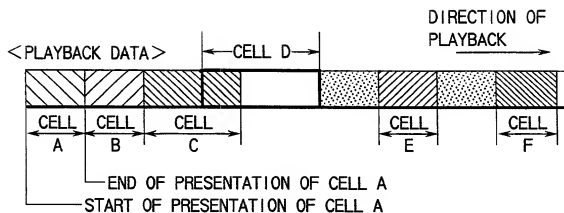


FIG. 7A

PGC INFORMATION (PGCI)

PGC#1 1081		PGC#2 1082		PGC#3 1083	
NUMBER OF CELLS=3		NUMBER OF CELLS=3		NUMBER OF CELLS=5	
#1	CELL A	#1	CELL D	#1	CELL E
#2	CELL B	#2	CELL E	#2	CELL A
#3	CELL C	#3	CELL F	#3	CELL D
—	—	—	—	#4	CELL B
—	—	—	—	#5	CELL E
CELL ID	CELL INFO.	CELL ID	CELL INFO.	CELL ID	CELL INFO.
CI_SRP #m=3	CI #n=3	CI_SRP #m=3	CI #n=3	CI_SRP #m = 5	CI #n=4

FIG. 7B

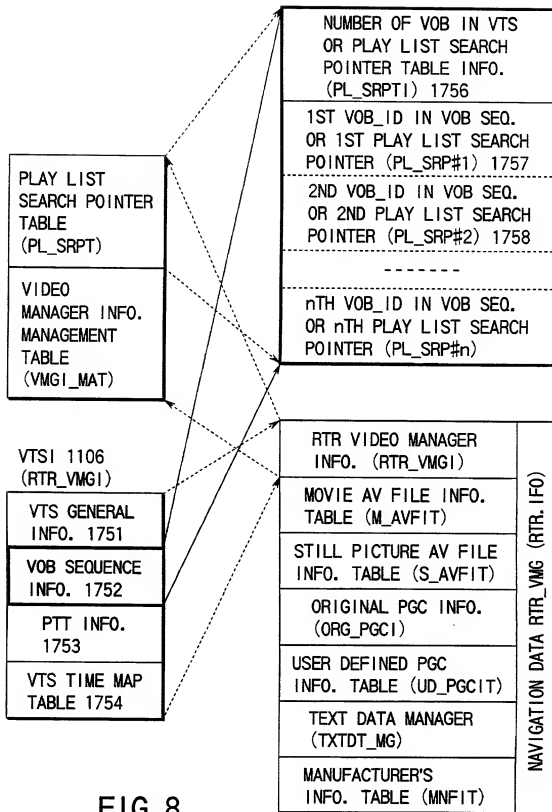


FIG. 8

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FIG. 9A

AV FILE 1401	
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FIG. 9B

VTS (OR RTR_MOV.VRO) 1402	
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FIG. 9C

VOB#1 1461	VOB#2 1462	VOB#3 1763	UNRECORDED AREA 1460
EXTENT# α 1471	EXTENT# β 1472	EXTENT# γ 1473	EXTENT# ϵ 1475
		EXTENT# δ 1474	EXTENT# ζ 1470

FIG. 9D

AV FILE 1401	
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FIG. 9E

VTS (OR RTR_MOV.VRO/RTR_STO.VRO/RTR_STA.VRO) 1402	
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$M_VOB1\#$		$S_VOB1\#$			
VOB#A 1771	VOB#B 1772	VOB#C 1773	VOB#D 1774	VOB#E 1775	VOB#F 1776
VIDEO OBJECTS 1012	AUDIO OBJECTS 1014	PICTURE OBJECTS 1013	AUDIO OBJECTS 1014	THUMBNAIL OBJECTS 1016	VOB#G 1777
					VOB#H 1778
					VOB#I 1779
$RTR_MOV.VRO$		$RTR_STO.VRO$		$RTR_STA.VRO$	

FIG. 9F

FIG. 10A

VOB FOR PICTURE OBJECTS (OR STILL PICTURE VOB GROUP RELATING TO S_VOI#) 1631
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FIG. 10B

VOBU (FOR ONE STILL PICTURE) 1641

FIG. 10C

V_PCK 1661	V_PCK 1662	V_PCK 1663	SP_PCK 1681	A_PCK 1691	A_PCK 1692
I-PICTURE 1706	DUMMY DATA		SP_STREAM	A_STREAM	A_STREAM

← VIDEO PART → → AUDIO PART →

FIG. 10D

VOB FOR PICTURE OBJECTS (OR STILL PICTURE VOB GROUP RELATING TO S_VOI#) 1632
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FIG. 10E

VOBU (ONE STILL PICT.) 1642	VOBU 1643	VOBU 1644
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FIG. 10F

V_PCK 1664	SP_PCK 1682	A_PCK 1693	V_PCK 1665	A_PCK 1694	V_PCK 1667	A_PCK 1695
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FIG. 10G VOB FOR PICTURE OBJECTS (OR STILL PICTURE VOB GROUP RELATING TO S_VOGI#) 1633

VOBU (ONE STILL PICTURE) 1645			VOBU 1646			VOBU 1647		

V_PCK 1668	V_PCK 1669	V_PCK 1670	SP_PCK 1683	V_PCK 1671	V_PCK 1672	V_PCK 1673	V_PCK 1674	----
I-PICTURE 1707	DUMMY 1704	SP- STREAM	I-PICTURE 1708	DUMMY 1705	I-PICTURE 1709			

VIDEO PART VIDEO PART VIDEO PART

FIG. 10I

FIG. 10J VOB FOR PICTURE OBJECTS (OR STILL PICTURE VOB GROUP RELATING TO S_VOGI#) 1634

VOBU (ONE STILL PICTURE) 1648			VOBU 1649			VOBU 1650		

SP_PCK 1684	A_PCK 1696	A_PCK 1697	A_PCK 1698	A_PCK 1699	A_PCK 1700	A_PCK 1701	A_PCK 1702	-----
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AUDIO PART AUDIO PART AUDIO PART

FIG. 10L

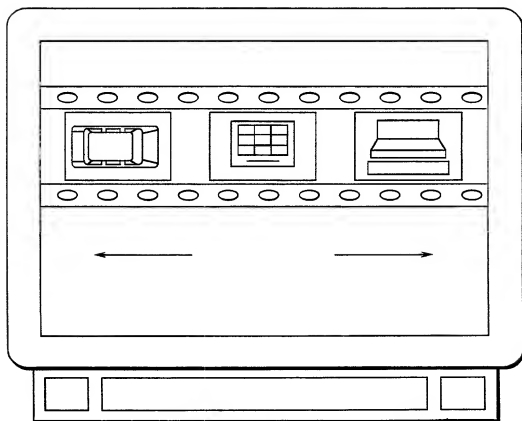


FIG. 11

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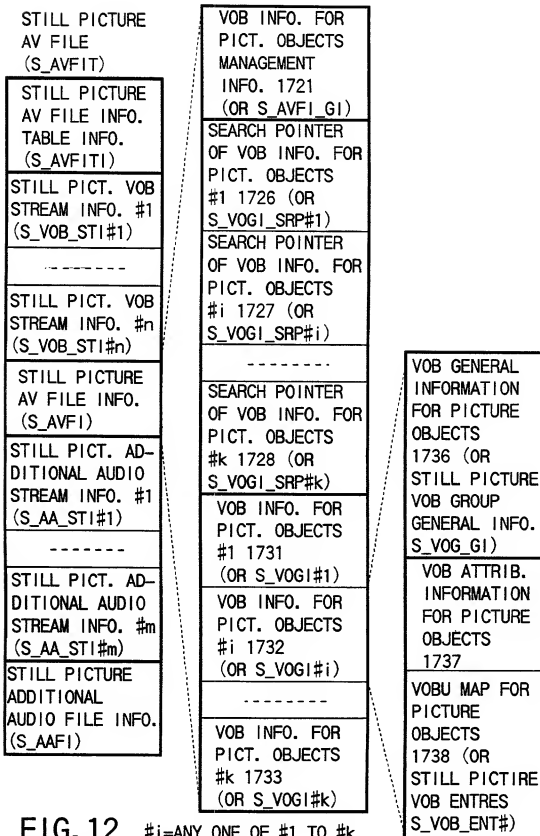


FIG. 12 #i=ANY ONE OF #1 TO #k

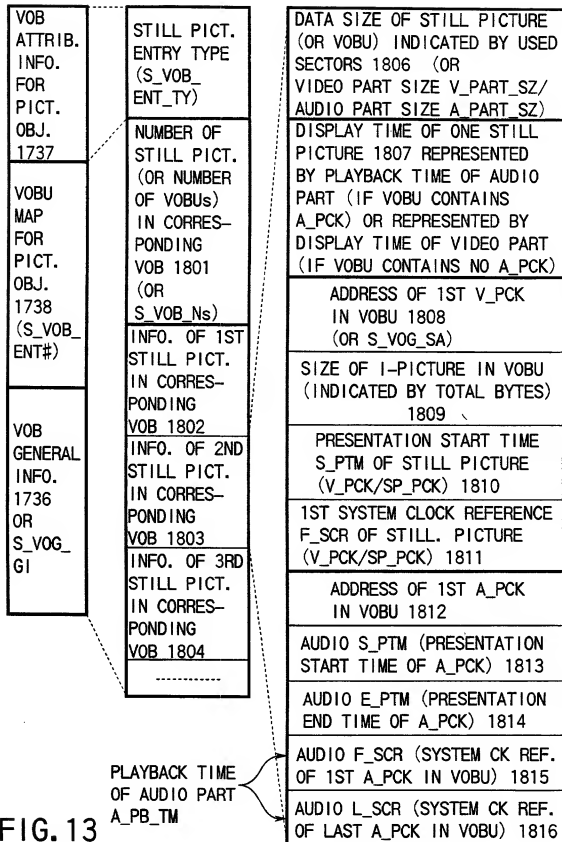


FIG. 13

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FIG. 14A

VOB #A 1821	
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FIG. 14B

VOBU 1825	VOBU 1826	STILL PICT. NO. 2	STILL PICT. NO. h
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FIG. 14C

STLPCT 1831	AUDIO 1841	STLPCT 1832	AUDIO 1842	STLPCT 1833	AUDIO 1843
V_PCK 1851	A_PCK 1861	V_PCK 1852	SP_PK 1848	V_PCK 1853	A_PCK 1863

FIG. 14D

CONTENTS SPECIFIED BY CELL		1ST STILL PICT. IN CELL		LAST STILL PICT. IN CELL	
V_PCK 1852	A_PCK 1865	V_PCK 1852	A_PCK 1865	V_PCK 1854	A_PCK 1866

FIG. 14E

A_PCK 1864	V_PCK 1855	A_PCK 1865	V_PCK 1856	A_PCK 1866	V_PCK 1857
AUDIO 1844	STLPCT 1835	AUDIO 1845	STLPCT 1836	AUDIO 1846	STLPCT 1837

FIG. 14F

STILL PICTURE NO. j	STILL PICTURE NO. h+j-2
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FIG. 14G

VOBU 1828	VOBU 1829
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VOB #B 1822

CONTENTS (S_CI) OF CELL PLAYBACK INFO. (CI) FOR PICTURE OBJECTS 1870	EXAMPLE 1871 WITH RESPECT TO FIG.14	EXAMPLE 1872 WITH RESPECT TO FIG.14
CELL ID (CI_SRP) 1873	_____	_____
TYPE INFORMATION OF CELL (C_TY) 1880	_____	_____
ID INFORMATION OF VOB WITH V_PCK 1874	VOB #A	1821
STILL PICT. NUMBER 1875 IN VOB INCLUDING V_PCK OF 1ST STILL PICTURE IN CELL (S_S_VOB_ENTN)	2	1826
STILL PICT. NUMBER 1876 IN VOB INCLUDING V_PCK OF LAST STILL PICTURE IN CELL (E_S_VOB_ENTN)	h	1827
ID INFORMATION OF VOB WITH A_PCK 1877	VOB #B	1822
STILL PICT. NUMBER 1878 IN VOB INCLUDING A_PCK OF 1ST STILL PICTURE IN CELL	j	1828
PRESENTATION TIME 1879 OF EACH STILL PICTURE HAVING NO CORRESPONDING A_PCK	2 SECONDS (ONE LINE)	_____

FIG. 15

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CONTENTS OF CELL PLAYBACK INFO. (CI) FOR PTT
CELL ID (CI_SRP) 1883
TYPE INFO. OF CELL (C_TY) 1882
ID INFO. OF PTT WITH V_PCK 1884
STILL PICTURE NUMBER 1885 IN PTT OF VOB INCLUDING V_PCK OF 1ST STILL PICTURE IN CELL
STILL PICTURE NUMBER 1886 IN PTT OF VOB INCLUDING V_PCK OF LAST STILL PICTURE IN CELL
ID INFO. OF PTT WITH A_PCK 1887
STILL PICTURE NUMBER 1888 IN PTT OF VOB INCLUDING A_PCK OF 1ST STILL PICTURE IN CELL
PRESENTATION TIME 1889 OF EACH STILL PICT. HAVING NO CORRESPONDING A_PCK

FIG. 16

10076325.021902

STILL PICTURE AV FILE INFO.
(S_AVFI) FOR PTT (CHAPTER)

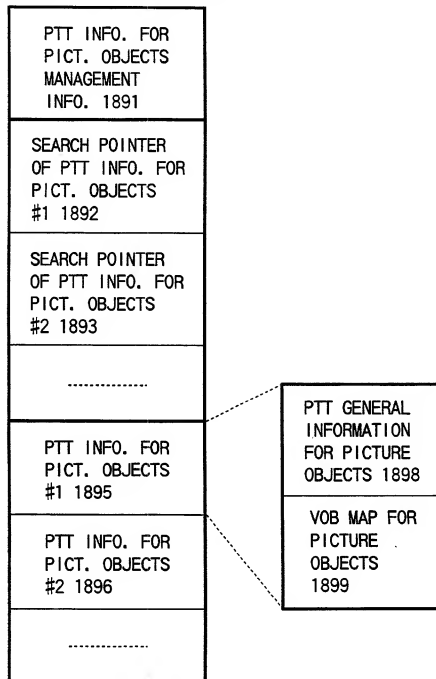


FIG. 17

10076325.021902

VOB MAP FOR
PICT. OBJECTS
1899

NUMBER OF
STILL PICT.
(OR NUMBER
OF VOBs) IN
CORRESPONDING
PTT 1901
(OR S_VOB_Ns)

INFO. OF 1ST
STILL PICT. IN
CORRESPONDING
PTT 1902

INFO. OF 2ND
STILL PICT. IN
CORRESPONDING
PTT 1903

DATA SIZE OF STILL PICTURE
(OR VOB) INDICATED BY USED
SECTORS 1906

DISPLAY TIME OF ONE STILL
PICTURE 1907 REPRESENTED
BY PLAYBACK TIME OF AUDIO
PART (IF VOB CONTAINS
A_PCK) OR REPRESENTED BY
DISPLAY TIME OF VIDEO PART
(IF VOB CONTAINS NO A_PCK)

ADDRESS OF 1ST V_PCK
IN VOB 1908
(OR S_VOG_SA)

SIZE OF I-PICTURE IN VOB
(INDICATED BY TOTAL BYTES)
1909

PRESENTATION START TIME
S_PTM OF STILL PICTURE
(V_PCK/SP_PCK) 1910

1ST SYSTEM CLOCK REFERENCE
F_SCR OF STILL. PICTURE
(V_PCK/SP_PCK) 1911

ADDRESS OF 1ST A_PCK
IN VOB 1912

AUDIO S_PTM (PRESENTATION
START TIME OF A_PCK) 1913

AUDIO E_PTM (PRESENTATION
END TIME OF A_PCK) 1914

AUDIO F_SCR (SYSTEM CK REF.
OF 1ST A_PCK IN VOB) 1915

AUDIO L_SCR (SYSTEM CK REF.
OF LAST A_PCK IN VOB) 1916

FIG. 18

10076325.021902

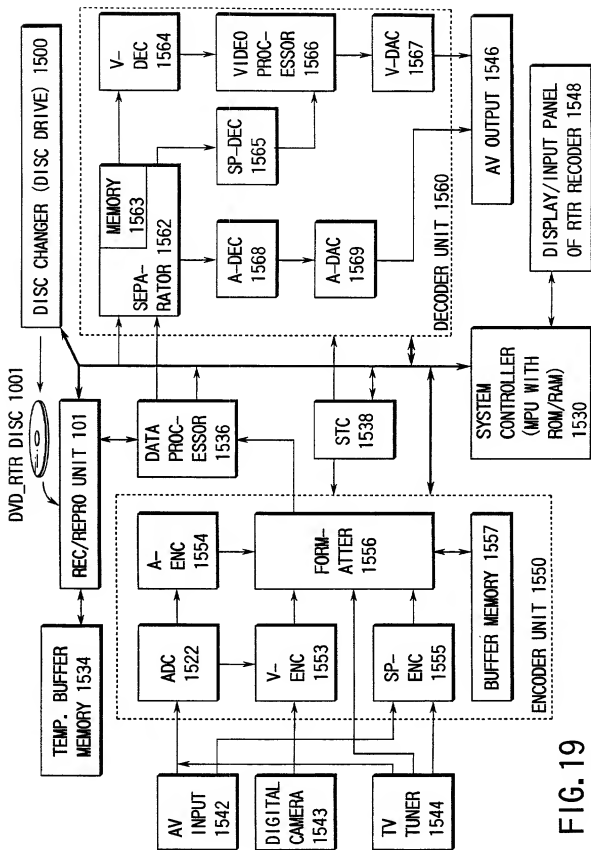


FIG. 19

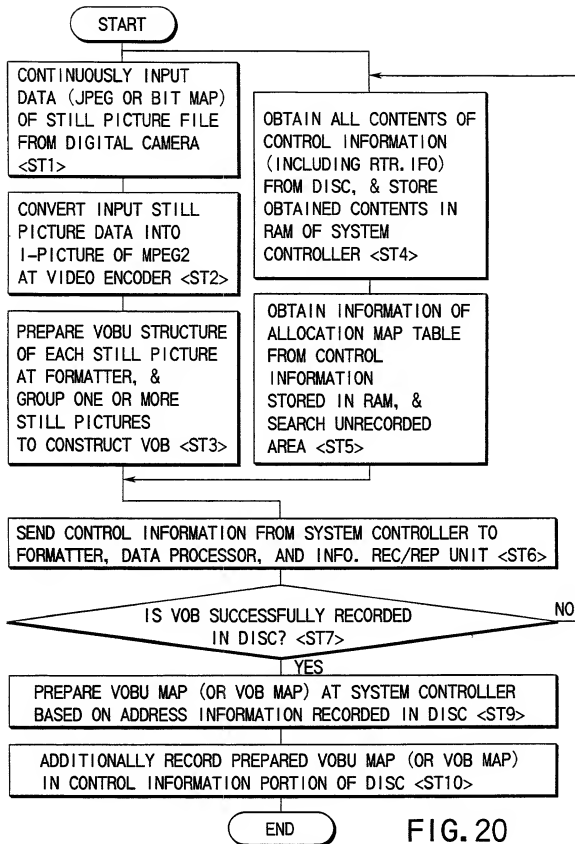


FIG. 20

10076325.021902

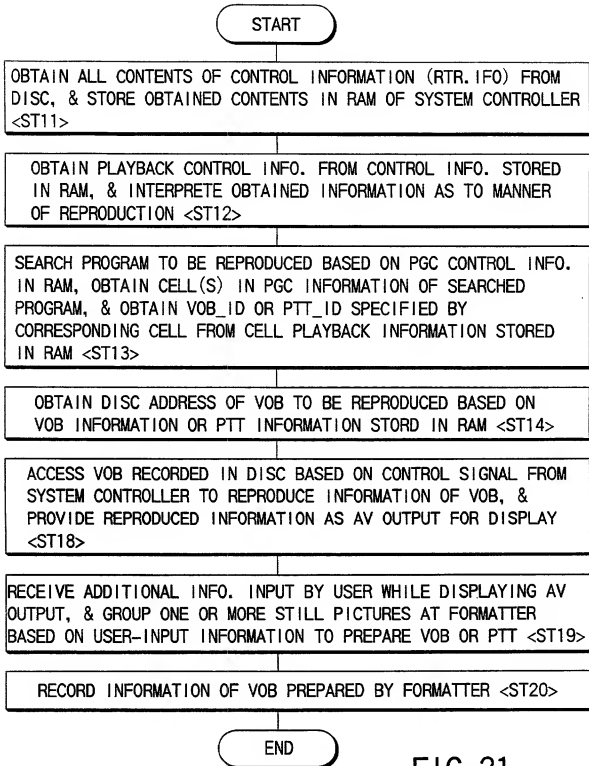


FIG.21

START

OBTAIN ALL CONTENTS OF CONTROL INFORMATION (RTR. IFO) FROM DISC, & STORE OBTAINED CONTENTS IN RAM OF SYSTEM CONTROLLER <ST11>

OBTAIN PLAYBACK CONTROL INFO. FROM CONTROL INFO. STORED IN RAM, & INTERPRETE OBTAINED INFORMATION AS TO MANNER OF REPRODUCTION <ST12>

SEARCH PROGRAM TO BE REPRODUCED BASED ON PGC CONTROL INFO. IN RAM, OBTAIN CELL(S) IN PGC INFORMATION OF SEARCHED PROGRAM, & OBTAIN VOB_ID OR PTT_ID SPECIFIED BY CORRESPONDING CELL FROM CELL PLAYBACK INFORMATION STORED IN RAM <ST13>

OBTAIN DISC ADDRESS OF VOB TO BE REPRODUCED BASED ON VOB INFORMATION OR PTT INFORMATION STORD IN RAM <ST14>

ACCESS VOB RECORDED IN DISC BASED ON CONTROL SIGNAL FROM SYSTEM CONTROLLER TO REPRODUCE INFORMATION OF VOB, & PROVIDE REPRODUCED INFORMATION AS AV OUTPUT FOR DISPLAY <ST18>

ACCESS VOB #A RECORDED IN DISC TO PROVIDE STILL PICTURE INFORMATION OF VOB #A <ST16>

ACCESS VOB #B IN DISC TO REPRODUCE AUDIO INFORMATION OF VOB #B, & PROVIDE AUDIO INFO. OF VOB #B AND STILL PICTURE INFO. OF VOB #A AS AV OUTPUT FOR STILL PICTURE DISPLAY WITH SOUND <ST17>

END

FIG.22

10076325.021902

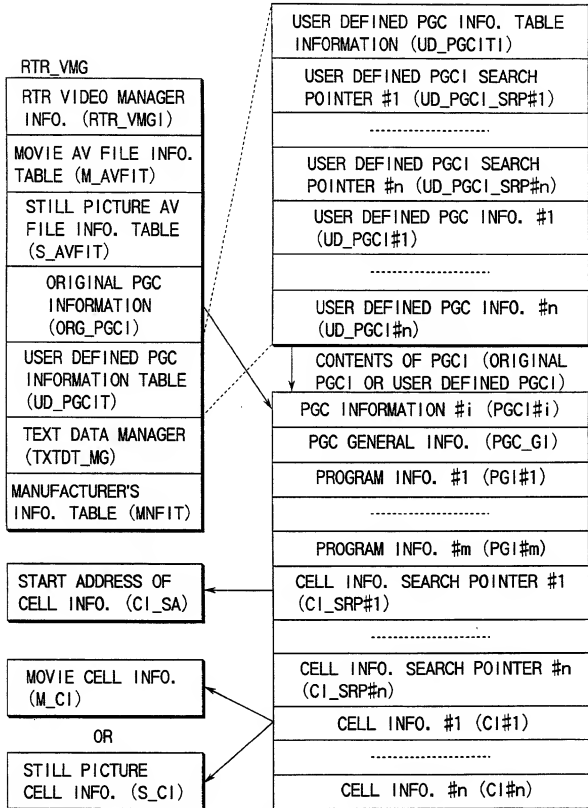


FIG. 23

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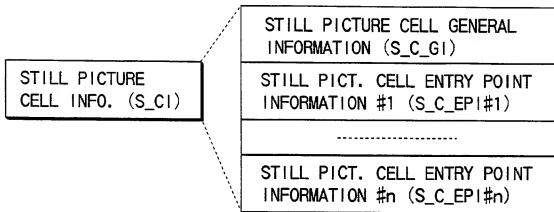


FIG. 24

CONTENTS OF S_C_GI

FIELD NAME	CONTENTS
RESERVED	RESERVED
C_TY	CELL TYPE
S_VOGI_SRPN	S_VOGI SEARCH POINTER NUMBER
C_EPI_Ns	NUMBER OF CELL ENTRY POINT INFO.
S_S_VOB_ENTN	START S_VOB_ENT NUMBER
E_S_VOB_ENTN	END S_VOB_ENT NUMBER

FIG. 25

CONTENTS OF S_C_EPI

FIELD NAME	CONTENTS
EP_TY	ENTRY POINT TYPE
S_VOB_ENTN	S_VOB_ENT NUMBER
PRM_TXTI	PRIMARY TEXT INFORMATION

FIG. 26

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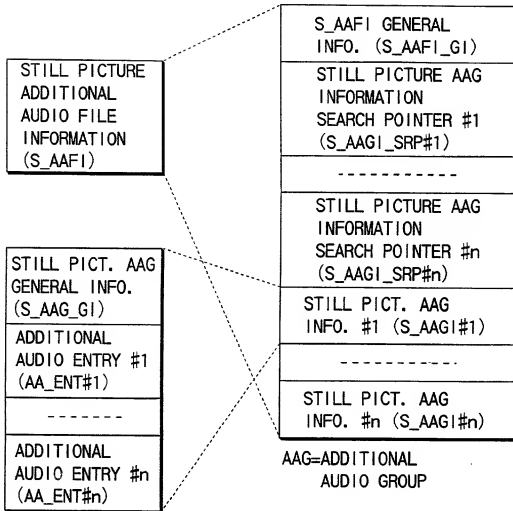


FIG. 27

CONTENTS OF S_AAG_GI

FIELD NAME	CONTENTS
AA_ENT_Ns	NUMBER OF AA_ENT
S_AA_STIN	STILL PICTURE ADDITIONAL AUDIO STREAM INFORMATION NUMBER
S_AAG_SA	START ADDRESS OF THIS AAG IN STILL PICTURE ADDITIONAL AUDIO FILE

FIG. 28

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CONTENTS OF AA_ENT

FIELD NAME	CONTENTS
AA_TY	ADDITIONAL AUDIO TYPE
AA_SZ	SIZE OF ADDITIONAL AUDIO STREAM
AA_PB_TM	PLAYBACK TIME OF ADDITIONAL AUDIO STREAM (MEASURED BY VIDEO FIELDS)

FIG. 29

CONTENTS OF S_VOG_GI

FIELD NAME	CONTENTS
S_VOB_Ns	NUMBER OF S_VOBS
S_VOB_STIN	STILL PICTURE VOB STREAM INFORMATION NUMBER
FIRST_VOB_REC_TM	TIME WHEN THE FIRST VOB IN THIS VOB GROUP WAS RECORDED
LAST_VOB_REC_TM	TIME WHEN THE LAST VOB IN THIS VOB GROUP WAS RECORDED
S_VOG_SA	START ADDRESS OF THIS VOB GROUP IN STILL PICTURE AV FILE

FIG. 30

CONTENTS OF S_VOB_ENT (TYPE 1)

FIELD NAME	CONTENTS
S_VOB_ENT_TY	STILL PICTURE VOB ENTRY TYPE
V_PART_SZ	SIZE OF VIDEO PART

FIG. 31

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CONTENTS OF S_VOB_ENT (TYPE 2)

FIELD NAME	CONTENTS
S_VOB_ENT_TY	STILL PICTURE VOB ENTRY TYPE
V_PART_SZ	SIZE OF VIDEO PART
A_PART_SZ	SIZE OF ORIGINAL AUDIO PART
A_PB_TM	PLAYBACK TIME OF AUDIO PART (DESCRIBED IN VIDEO FIELDS)

FIG. 32

CONTENTS OF S_VOB_ENT (TYPE 3)

FIELD NAME	CONTENTS
S_VOB_ENT_TY	STILL PICTURE VOB ENTRY TYPE
V_PART_SZ	SIZE OF VIDEO PART
S_AAGN	ADDITIONAL AUDIO GROUP NUMBER
AA_ENTN	AA_ENT NUMBER

FIG. 33

CONTENTS OF S_VOB_ENT (TYPE 4)

FIELD NAME	CONTENTS
S_VOB_ENT_TY	STILL PICTURE VOB ENTRY TYPE
V_PART_SZ	SIZE OF VIDEO PART
A_PART_SZ	SIZE OF ORIGINAL AUDIO PART
A_PB_TM	PLAYBACK TIME OF AUDIO PART
S_AAGN	ADDITIONAL AUDIO GROUP NUMBER
AA_ENTN	AA_ENT NUMBER

FIG. 34

10076325-021902

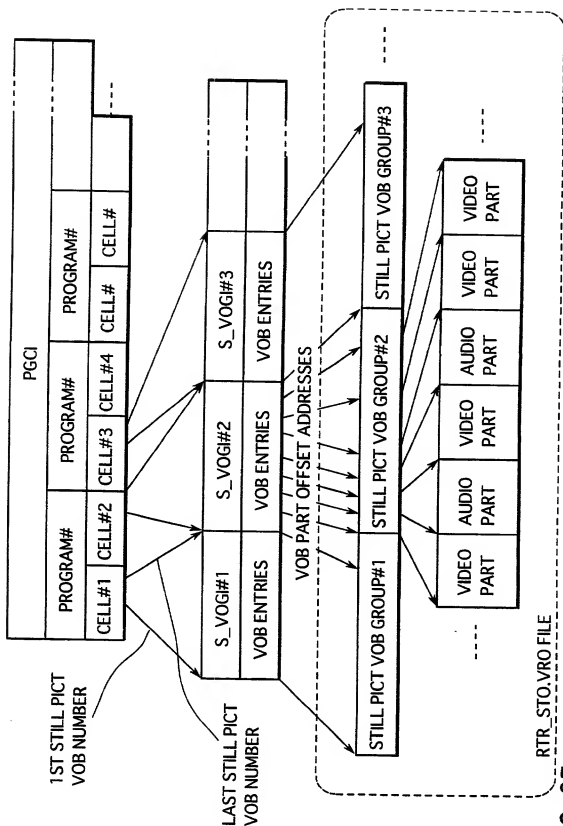


FIG. 35

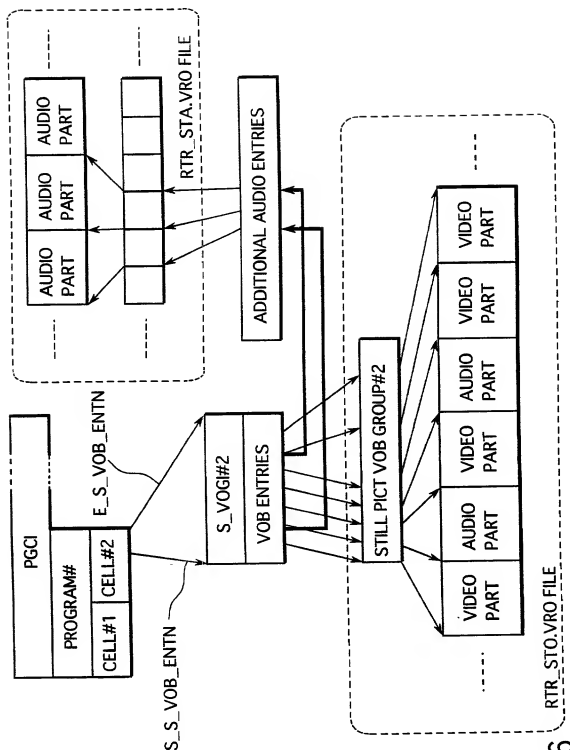


FIG. 36

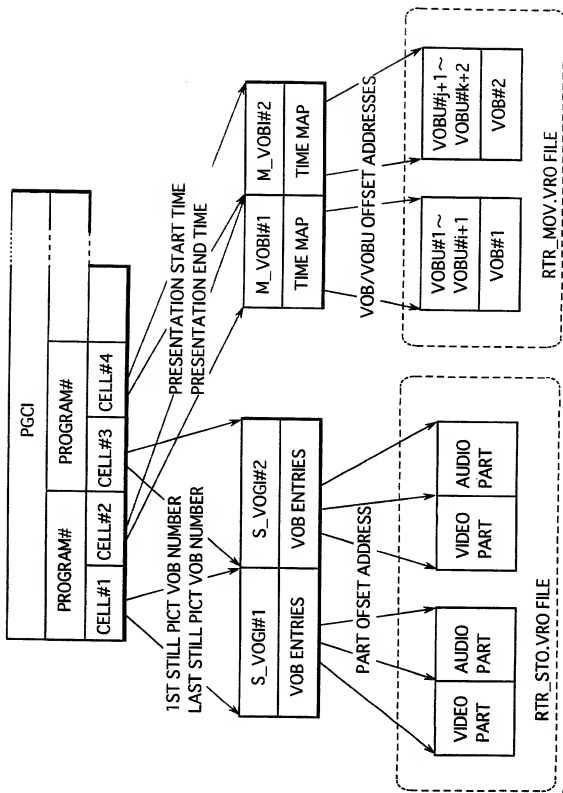


FIG. 37

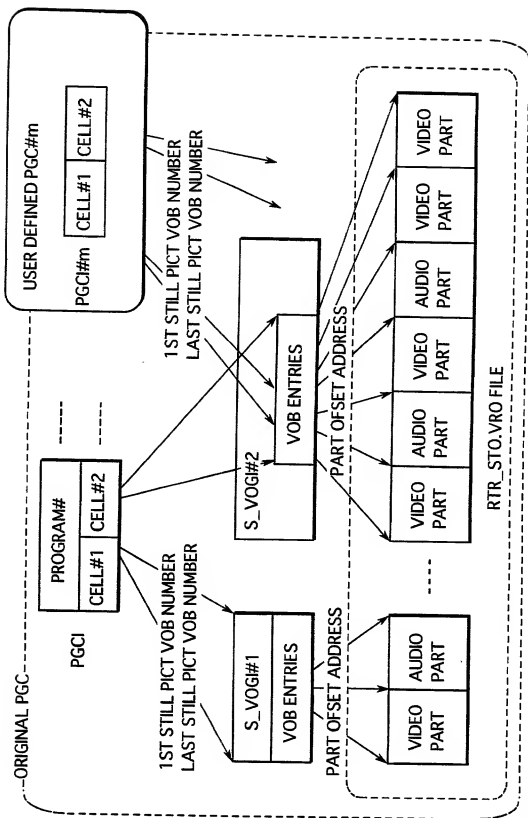


FIG. 38